## AMENDMENTS TO THE CLAIMS

1.  (currently amended): A computer-based system for executing instructions for normalizing information content in a document, the system comprising:

a template normalizer for matching and applying a template to the information content, wherein the template defines modifications to the document in order to adapt the document for display on a device other than an originally intended device; and

an automatic normalizer for folderizing the information content, wherein the information content is organized into a set of hierarchical nodes having respective weights, where a weight determines whether a node will be inserted into a normalized document as a folder title or folder contents, ~~wherein a folder can be expanded to display the information content, and wherein unexpanded folder titles are displayed along with the information content of the expanded folder,~~ and wherein the automatic normalizer folderizes the information content by identifying content having a higher visibility on a display of the originally intended device and assigning the content having the higher visibility a weight indicative of a folder title;

wherein the template normalizer attempts to match a template to the information content, and if not, the automatic normalizer folderizes the information content to produce a normalized information content.


2. (original):  The system of claim 1 wherein the template normalizer recognizes patterns in the information content, and wherein the template normalizer dynamically changes the information content to match the template.

3. (original): The system of claim 2 wherein the template normalizer determines if the variation in the information content is too great to match to a template, and if so, forwards the information content to the automatic normalizer.

4. (original): The system of claim 1 wherein the template normalizer utilizes regular expression pattern matching to the information content.

5. (original): The system of claim 1 wherein the information content is represented by a document object tree, and wherein the template normalizer utilizes regular expression pattern matching to the document object tree.

6. (original): The system of claim 1 wherein the automatic normalizer utilizes normalization markup embedded in the information content to provide the automatic normalizer with specific instructions.

7. (original): The system of claim 1 wherein the automatic normalizer utilizes meta-tags embedded in the information content to provide the automatic normalizer with at least one specific instruction.

8. (original): The system of claim 7 wherein the specific instruction is to create a folder containing a portion of the information content.

9. (original): The system of claim 7 wherein the specific instruction is to trigger markup based normalization.

10. (original): The system of claim 1 wherein the template normalizer utilizes normalization markup embedded in the information content to provide the template normalizer with at least one specific instruction.

11. (original): The system of claim 10 wherein the specific instruction is to trigger markup based normalization.

12. (original): The system of claim 1 wherein the normalization markup does not affect the page for display by a PC-based browser that utilizes hypertext markup language (HTML).

13. (original): The system of claim 1 wherein the information content is in the form of a document object model (DOM).

14. (original): The system of claim 1 wherein the information content is in the form of a document object tree.

15. (original): The system of claim 1, further comprising:

a QDOM for generating a document object tree, wherein the document object tree is represented by a mutable object.

16. (previously presented): A computer-based system for executing instructions for normalizing a document tree representation, the system comprising:

an automatic normalizer for applying pattern recognition and weighting heuristics on the document tree to produce a normalized document tree, wherein the document tree represents a format for displaying information content in a document on a device, and wherein the pattern recognition and weighting heuristics alter the format for displaying the information content, and wherein the document tree is organized into a set of hierarchical nodes having respective weights, where a weight determines whether a node will be inserted into the normalized document tree as a folder title or folder contents, and wherein the automatic normalizer folderizes the information content by assigning content having a higher visibility of display a weight indicative of a folder title, wherein if a node has no effect on a visual display of the information content and the node is not folder contents, the node is removed.

17. (original): The system of claim 16 wherein the automatic normalizer comprises a markup assisted normalizer for processing normalization markup in the document tree to produce the normalized document tree.

18. (original): The system of claim 17 wherein the normalization markup does not affect a page for display by a PC-based browser that utilizes hypertext markup language (HTML).

19. (original): The system of claim 16 wherein the normalized document tree represents a hierarchical representation of information in the document tree.

20.  (previously presented): A computer-based system for executing instructions for normalizing a document tree representation, the system comprising:

a template normalizer for matching a document tree to a template tree and applying changes to the document tree to produce a normalized document tree, wherein the document tree represents a format for displaying information content in a document on a device, and wherein the template tree defines changes to the document tree so as to adapt the format of the information content in the document when displayed on the device, wherein the document tree is organized into a set of hierarchical nodes having respective weights, where a weight determines whether a node will be inserted into the normalized document tree as a folder title or folder contents, and wherein a folder can be expanded to display information content, and wherein unexpanded folder titles are displayed along with the information content of the expanded folder.

21. (original): The system of claim 20 wherein the template normalizer determines if the document tree matches the template tree, and if not, forwards the document tree to an automatic normalizer.

22. (original): The system of claim 20 wherein the template normalizer utilizes regular expression pattern matching to match the template tree to a document tree.

23. (previously presented):  A computer-based method for normalizing information content in a document, the method comprising:

using a processor executing one or more instructions for:

matching and applying a template to the information content, wherein the template defines modifications to the document in order to adapt the document for display on a device other than an originally intended device, and if unsuccessful:

determining if the information content contains normalization markup, and if so:

utilizing normalization markup in the information content to normalize the information content, wherein the normalization markup provide at least one specific instruction for normalizing the information content.

24. (previously presented): The method of claim 23 further comprising:

determining if the information content contains normalization markup, and if not:

applying pattern recognition and weighting heuristics on the information content to normalize the information content.

25. (previously presented): The method of claim 23 further comprising:

recognizing patterns in the information content, wherein the template normalizer dynamically changes the information content to match the template.

26. (previously presented): The method of claim 23 further comprising:

determining if a variation in the information content is too great to match the template, and if so:

determining if the information content contains normalization markup.

27. (previously presented):   A method for automatically normalizing a document tree, wherein the document tree represents an organization of information content in a document for display on a device, wherein the document tree includes weighting nodes that affect a display of the information content on the device, and wherein the document tree includes content nodes that represent the information content to be displayed on the device, the method comprising:

determining node weighting criteria, wherein the node weighting criteria are used to define and alter the organization of the information content in the document;

weighting nodes in the document tree according to the determined criteria, wherein content having a higher visibility on a display are assigned a weight indicative of a folder title;

removing nodes that do not affect the visual display of the information content on the device and that do not represent the information content to be displayed on the device; and

determining parent-child relationships between the weighted nodes based on the weighted nodes to produce a normalized document tree, wherein a weighted node is established as a child of a parent having the lightest weight of all the parents that is also greater than the weight of the weighted node.


28. (previously presented):   The method of claim 27 further comprising:

weighting nodes in a table; and

attempting to match the table to a predefined pattern of weights, and if successful:

extracting data in response to the predefined pattern.


29. (previously presented): The method of claim 28 further comprising:

attempting to match the table to a predefined pattern of weights, and if unsuccessful:

extracting data according to the weighted nodes.


30. (previously presented):   The method of claim 27 further comprising:

applying changes to the document tree according to a normalization markup comprising adding nodes, removing nodes, moving nodes, partitioning nodes into folders, and calling user defined formatting rules on the nodes.


31. (previously presented): A computer-based method for generating a document object tree, the method comprising:

using a processor executing one or more instructions for:

receiving data; and

storing information relating to the data into a plurality of arrays;

wherein the plurality of arrays utilize re-usable buffers, and wherein the stored information describes the document object tree and tree dependencies as a mutable object, and wherein the document object tree includes a hierarchical set of nodes that define a format for displaying information content in a document on a device, and

wherein the plurality of arrays contain values associated with the nodes of the data, and wherein operations on the nodes can be carried out by utilizing the value as referenced to the affected nodes,

wherein separate arrays are used to store values representing properties of each node including properties selected from the group consisting of a parent node, a previous sibling node, a next sibling node, and a first child node.

32. (previously presented):    The method of claim 31 further comprising:

transforming the document object tree, wherein the transformed document object tree is represented by the single mutable object.

33. (previously presented):    The method of claim 31 further comprising:

adding an array to the plurality of arrays as the received data grows in size.

34. (previously presented):    The method of claim 31 wherein the plurality of arrays are used to hold the associated values that represent properties of the nodes of the document object tree.

35. (previously presented):    The method of claim 31 further comprising:

referencing a re-usable content buffer that contains data;

wherein the plurality of arrays store start and end positions of data that reference the data stored in the re-usable content buffer.

36. (canceled).

37. (previously presented):    The method of claim 31 further comprising:

normalizing the document object tree model by a template normalizer for applying templates to the document object tree.

38. (previously presented):    The method of claim 31 further comprising:

normalizing the document object tree model by an automatic normalizer for applying pattern recognition and weighting heuristics on the document tree to produce a normalized document tree.

39. (previously presented): A computer-based method for comparing a document tree against a template tree, the method comprising:

using a processor executing one or more instructions for:

matching the document tree by utilizing a template markup language comprising regular expression, wherein the document tree defines a format for displaying information content in a document, and wherein the template tree defines modifications to the document tree in order to adapt the display of the information content for a device other than an originally intended device; and

applying changes to the document tree according to the template markup language, wherein the template markup language provides at least one specific instruction for normalizing the information content.

40. (previously presented): The method of claim 39 wherein the document tree is represented by a plurality of nodes, and wherein applying changes to the document tree according to the template markup language comprises adding a node to the plurality of nodes, dropping at least one of the plurality of nodes, moving at least one of the plurality of nodes, partitioning at least one of the plurality of nodes into folders, or calling user defined formatting rules on at least one of the plurality of nodes.

41. (previously presented): The system of claim 1, wherein if a node has no visual effect on a display of the information content and the node is not folder contents, the node is removed.

42. (previously presented): The system of claim 1, wherein the automatic normalizer folderizes the information content by organizing a weighted node as content within a folder having the lightest weight of all the folders that is also greater than the weight of the weighted node.

43. (previously presented): The system of claim 1, wherein a folder can be expanded to display information content, and wherein unexpanded folders are displayed along with expanded folders.